



**UNITED STATES DEPARTMENT OF COMMERCE  
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/419,787	10/18/99	FUKU	Q56151

MMC2/1108  
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EXAMINER	
MITCHELL, J	
ART UNIT	PAPER NUMBER
2822	

DATE MAILED: 11/08/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

**Office Action Summary**

Application No.

09/419,787

Applicant(s)

FUKU ET AL.

Examiner

James Mitchell

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 03 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 4 is/are allowed.
- 6) ☐ Claim(s) 1-3, 5 and 6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

## DETAILED ACTION

This office action is in response to the amendment filed July 3, 2001.

### *Claim Objections*

1. Claim 3 objected to because of the following informalities: typographical error "power chip circuit board circuit board" (Line 3). Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giho (Vol. 72, No.12, 1998) in view of Rudi (EP 0787992).
4. Giho discloses a power chip ("chip") and a power chip substrate (board), a control circuit board that is removably fixed from outer case (case) with an electrical component thereon, an outer case fixed with leads (L shaped terminal) that are electrically connected to said power chip by a wire bond wherein a fixing means to said control board is the connector (defined by the hole in said board through which the terminal protrudes which hinders horizontal movement).
5. Giho does not show a fixing means being a pawl, however Rudi utilizes a pawl (Fig.1, 2, Item 6, 7.1-7.3).

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6. It would have been obvious to one of ordinary skill in the art to modify the case of Giho by incorporating pawls as alternate fixing means to lock said board to the case for increase vibration resistance as taught by Rudi (Line 40, Column 1).

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Giho in view of Ahmann (U.S 4,037,270).

8. Giho discloses the elements stated in paragraph 4, and further the leads being fixed to the outer case via the lead being embedded in the case.

9. Giho does not show the leads formed as a spring shape, however Ahmann utilizes a compressed spring (38) for contact (Line 3 Lines 67-1, Columns 2-3).

10. Absent evidence to the contrary, it would have been obvious to one of ordinary skill in the art to use spring lead as an alternative contact means since springs leads are well known contacts in the art.

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Giho in view of Inaska (U.S 5,136,471).

12. Giho discloses the elements stated in paragraph 4, but does not show a screw used as a fixing means for a circuit board.

13. Inaska (Fig.2) utilizes a screw (40) for a fixing means to a circuit board (38).

14. It would have been obvious to one of ordinary skill to use screws as an alternate fixing means for the attachment of a circuit board as well known in the art.

***Allowable Subject Matter***

15. Claim 4 is allowable.

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The following is an examiner's statement of reasons for allowance: The prior art does not disclose or make obvious an elastic electrical connection material intervening between a conductive material member and conductive land where said connection material is compressed.

16. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hiramoto (JP 411087610)

The cited art discloses in Hiramoto the use of screws to fix a circuit board to an outer case.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Mitchell whose telephone number is (703) 305-0244. The examiner can normally be reached on M-F 10:30-8:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on (703) 308-4083. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3230 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

jmm  
October 21, 2001

  
CARL WHITEHEAD, JR.  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800